

ABSTRACT OF THE DISCLOSURE

5 A multi-wavelength laser array where each element can
be individually heated for fine tuning. The wavelength of
the array can be coarsely tuned by selecting one laser of a
particular wavelength for the array, and then applying a
heating current to fine-tune the wavelength. The lasers
10 can be phase shifted DFBs for high single-mode yield. The
heating can be performed monolithic to the device by
passing current longitudinally through the p-type stripe,
while the injection current passes vertically through the
stripe. Alternatively an adjacent laser to the one
15 selected can be activated, though not fiber coupled, such
that the thermal load is sufficient to tune the selected
laser. Thin film heaters placed on top or adjacent to the
cavity can also be used. To minimize continuous power
20 consumption, the on-chip heater can be used initially to
tune the laser while the TE cooler responds on a slower
time scale.

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